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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,015	12/08/2003	Nobuo Komeyama	K06-163809M/TBS	9139

21254 7590 02/01/2005

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EXAMINER

BINDA, GREGORY JOHN

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,015

Applicant(s)

KOMEYAMA ET AL.

Examiner

Greg Binda

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20040129</u> . | 6) <input type="checkbox"/> Other: _____ |

Drawings

1. The drawings are objected to because:
 - a. The drawings fail to show the limitations of claim 6.
 - b. Reference numeral 6 is used to identify a roller with a diameter d2 at page 13, line 23 and reused to identify a larger roller with a diameter d1 in line 25.
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because at page 14, lines 2 & 3, reference character "D2" should be changed to "d2".

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The structural feature indicated by the limitation "rolling bearings" is ambiguous.

Claim 1, lines 3 & 4 recites "rolling bearings . . . in a plurality of rows" which equates the "rolling bearings" to the pin rollers 6 at page 5, line 22 and claim 6 recites that the "rollers" have "crownings in a curved shape" which equates to the pin rollers 6 at page 12, line 1. However, claim 5 recites "four roller bearings are respectively mounted on the four trunnions" which equates the "roller bearings" to the roller bearings 5A-5D at page 5, line 20. The roller bearings in claim 1, lines 11 & 12 equate to the roller pins-6 at page 8, line 13.

- b. Claim 4 recites the limitation "the bearing rolling face". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 3, 5 & 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Stokely, US 3,204,428.

a. Claim 1. In Fig. 2 Stokely shows a cross shaft C comprising: a trunnion 19; a bearing D having a plurality of pins 27 provided about, and in an axial direction of, the trunnion; and a recess 40 formed at distal face of the trunnion. In col. 3, line 71 the bottom region is disclosed as spherical. Fig. 2 shows the recess becomes gradually larger toward an opening end edge of the recess and that the total length of the recess from its open edge to its deepest point is set to be 30 to 70% of the total length of the pins 27.

b. Claim 3. Fig. 2 shows the inner diameter of the opening edge of the recess 40 is 50 to 80% of the outer diameter of the distal end of the trunnion C and that the spherical bottom region has a central angle between 120 and 160 degrees and a radius of curvature which is 50% of the inner diameter of the opening.

c. Claim 5. In col. 3, line 30 Stokely discloses that there are four trunnions.

d. Claim 6. Fig. 2 shows crownings in a curved shape are formed at both ends of each pin 27.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Stokely in view of Olschewski et al, US 4,436,516 (Olschewski). Stokely shows all the limitations of the claim except the outer periphery of the trunnion provided with a plurality of bearing faces which are successively reduced in diameter. In Fig. 1 Olschewski shows a trunnion 6 like that in Stokely, but in Fig. 3 shows the trunnion modified so that it includes with a plurality of bearing faces which are successively reduced in diameter. Olschewski teaches in col. 3, lines 1-10 providing such modification in order to eliminate deleterious end pressures. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cross shaft of Stokely by making the trunnion with a plurality of bearing faces which are successively reduced in diameter in order to eliminate deleterious end pressures as taught by Olschewski.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stokely. Stokely shows all limitations of the claimed invention but does expressly disclose the cross shaft C being made from steel. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the cross shaft from steel, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its

Art Unit: 3679

suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. GB 832,784 and BE 550,333 each show the outer periphery of a trunnion provided with a plurality of bearing faces which are successively reduced in diameter. Lindenthal shows three rows of pins 19. Mazziotti shows a plurality of pins and a recess. *SAE Manual* shows in Fig. 59 that pins with curved and flat end shapes are art recognized equivalents.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (703) 305-2869. The examiner can normally be reached on M-F 9:30 am to 7:00 pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (703) 308-2686. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



GREGORY J. BINDA
PRIMARY EXAMINER